

PERITONITIS IN THE MALE AS A COMPLICATION OF GONORRHOEA.¹

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GONORRHOEA in the female is generally regarded as a serious disease. Its involvement of the Fallopian tubes, followed by attacks of local peritonitis, will frequently subject the woman to a life of semi-invalidism or to the risks of a laparotomy. In rare cases a pyosalpinx leads to a fatal termination. Gonorrhœa in the male, however, is not always recognized as a disease which may be followed by serious complications. It is regarded as a disease which is tedious and difficult to cure, but we are apt to forget that not uncommonly serious and occasionally fatal results have followed the invasion of the male urethra by the gonococcus. A double epididymitis, resulting in sterility, a cystitis, a pyelitis, or a pyonephrosis, an extensive supuration of the pelvic connective tissue, with burrowing upward as far as the ribs, or downward as far as the knee, and, finally, peritonitis, either local or general, are some of the grave and possibly fatal complications of a specific urethritis. It is of this last complication, peritonitis, that I wish to report a case. While it is true that this accident is a rare one, yet a sufficient number of cases have been recorded, and several of them confirmed by autopsies, to impress upon us the importance of bearing in mind the possibility of this grave complication.

Gonorrhœal peritonitis was first mentioned by Hunter in 1786. In his opinion it was due to an extension of the disease along the vas deferens to the peritoneum. Since his publication

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at least thirty such cases have been reported. Inasmuch, however, as the majority of these have terminated in recovery, we may argue, I think, that the peritonitis must have been localized, or at least was not of the general suppurative form.

Nine cases, however, have been reported, where a gonorrhœal peritonitis has terminated in death. In eight of these the diagnosis has been verified beyond a doubt by either autopsy or operation (autopsy in six, operation in two), and in the ninth case all the symptoms were of such a character that the diagnosis was as certain as any medical one can be unless fortified by autopsy or operation. In the two cases in which laparotomy was performed, one ended in recovery (Lienard's), and the other in death (McCosh's). At the end of this article are given the references where the reports of these nine cases which I have collected can be found.

CASE.—*Urethritis ; Prostatitis ; Periprostatic Suppuration ; Peritonitis ; Laparotomy ; Death.*—J. P., aged forty-two; married. In the early part of March, 1892, he felt an "irritation of his urethra and some pain on defecation," and in order to be relieved he entered one of the hospitals in this city, where urethral sounds were passed daily for several days. He experienced so much pain from their use that at the end of five days he left the hospital. I have been unable to obtain the history of this period, but presumably he was suffering from a chronic inflammation of the deep urethra, with probably a subacute form of prostatitis. After leaving the hospital he apparently considered himself cured, and stated that, on March 20, he felt perfectly well. On the morning of March 21 he was attacked by a pain in his perineum, which increased markedly during the day, so that at night he could scarcely walk or sit down. On the 22d he presented himself at the Presbyterian Hospital Dispensary, and was seen by Dr. F. T. Brown, who made a very careful examination, and I am indebted to him for notes of the case at this period. A slight urethral discharge was present, but on examination no gonococci were found. The pain located in the perineum was severe, so that he had been unable to sleep. Urination was frequent and difficult. In order to urinate he was compelled to put his hand behind the anus and press upward the anal and prostatic region; the urine then came in short

jets. A soft catheter was passed, and three ounces of residual urine drawn.

Urine passed by urethra was cloudy, opaque, with copious sediment or *détritus*; that drawn by catheter was clear and free from sediment. Specific gravity 1025; acid. The microscope showed pus, blood, epithelial cells, and amorphous tissue.

The catheter met no obstruction, but pain was experienced as it passed the membranous and prostatic urethra. External examination revealed a point of tenderness on the left of the urethra, and pain on pressure on the prostatic portion. The left spermatic cord in the upper part of the scrotum, and as high as could be reached in the inguinal canal, was as large as the forefinger, and indurated. Rectal examination showed the left seminal vesicle somewhat nodular. The prostate was slightly enlarged and tender. Under appropriate treatment by rest and anodynes the patient improved, though for several days there was a very profuse, purulent, urethral discharge, slightly blood-stained. At the end of two weeks he considered himself well, and gave up treatment. About a week later (April 10) he returned, suffering from a relapse, the symptoms again being those of an acute prostatitis. After a few days treatment he again disappeared, and was not heard from until brought to the hospital by ambulance, about midnight on April 26. He stated that on the 24th he had a chill and a discharge of pus from the rectum. On the 25th he began to experience pain in the lower part of the abdomen, which on the day of his admission became very severe, and was accompanied by vomiting. On admission his temperature was 102° F.; pulse 100; respiration 26. He had the appearance of a patient suffering from shock, surface cold and clammy, and pulse feeble. He complained of severe abdominal pain and tenderness on pressure. The abdomen was hard, distended, and tympanitic. On rectal examination the prostate was felt to be moderately enlarged, and on each side of it, especially to the right, was felt a hard mass, apparently of inflammatory tissue.

The diagnosis was made of septic peritonitis, due probably to rupture of a periprostatic abscess. Laparotomy was advised, but consent to the operation could not be obtained until the next day, when the patient's condition was markedly worse. He was troubled with persistent hiccough and occasional vomiting. Stimulants had been given by the rectum, and his pulse was not perceptibly worse, beating about 96 to the minute. The temperature was 101½° F. His general appearance, however, gave the impression that he was a seriously

sick man. Operation was agreed to, and at 3 P.M. it was performed under chloroform anæsthesia. The abdomen was opened in the median line between the umbilicus and symphysis pubis by an incision three or four inches long. The peritoneum was much thickened and agglutinated to the intestines, which were matted together, and covered by a thick layer of lymph. When a free opening had been made into the peritoneal cavity—and this was accomplished with considerable difficulty—a quart of purulent fluid mingled with flakes of lymph escaped. The intestines were enormously distended, the walls deeply congested, thickened, purplish, and coated throughout the greater part of their surface with a layer of fibrin as thick as blotting paper, which could be peeled off in long strips. In places they were agglutinated, and on separating the coils fresh accumulations of pus escaped. In the right side of the pelvis there was a specially large accumulation, and here the intestines were more adherent, and large masses of a fibrinous exudation were washed out and removed. The total amount of purulent fluid which poured out was estimated at three quarts. In the mean time the incision had been enlarged, and the hand passed down into the pelvis. The finger passed into a cavity of considerable size, situated between the rectum and bladder, somewhat to the left. This had evidently been an abscess cavity, and it was bounded on the left by the rectum, above by the base of the bladder, below by the perineum and ischio-rectal fossa. At the lower and inner side was felt the enlarged prostate surrounded by inflammatory tissue. On tilting the pelvis upward and casting into it the electric light, it was seen that the abscess cavity was partly under the peritoneum, which had been pushed upward until evidently it had been perforated by the pus, which had either escaped at once into the general peritoneal cavity or into a space shut off from the general cavity by adherent intestines into which it had afterwards ruptured. Between the finger pushed down inside the pelvis to the bottom of this cavity and the finger of the other hand pressed against the perineum, just above and to the right of the anus, not more than half an inch of tissue intervened. No opening into the rectum could be discovered. The intestines, which had been entirely removed from the abdomen and kept in hot towels, were now, as was the entire abdominal cavity, washed out with boro-salicylic solution (Thiersch). The intestines were then returned with difficulty, and the incision closed with the exception of a space at its lower end, through which a glass drainage-tube passed down into the pelvis. An opening was made in

the lateral wall of the abdomen in each lumbar region, through which rubber drainage-tubes, eight inches long, were passed.

During the latter part of the operation the patient's pulse became very feeble, and he was freely stimulated hypodermically and per rectum. He rallied, however, from the shock, and on the following morning his condition was encouraging. The abdomen was irrigated with hot water every two hours, and the drainage seemed to act well, for by temporarily blocking the ends of the tubes water could be forced into the abdomen until the distention was so marked that it interfered with respiration, and then on releasing the ends of the tubes, the fluid, cloudy and mixed with particles of fibrin, would spurt out with considerable force. During the day of April 29 the vomiting became more persistent, and nothing could be retained by the stomach. On the 29th the patient's pulse became weaker. His mind was still clear, but towards evening he gradually sank, and died fifty hours after operation.

Laparotomy in this case was rather a desperate procedure, but without it the man was doomed, and his life was not shortened by the procedure.

It is a question in such case by what route the infection reaches the peritoneum. Probably it is not the same in every patient. In some the seminal vesicles seem to have been the source of the infection, in others the spermatic cord, in others the poison seems to have been carried to the peritoneum by means of a pelvic lymphangitis, while in still others a pelvic phlegmon, generally in the nature of a periprostatic abscess, has caused the infection either by continuity or by rupture of the abscess into the peritoneal cavity. In my own case this latter method was the one pursued by nature. Had a bacteriological examination been made in more of these cases the track of the infection could be determined with greater accuracy. It seems to be still an open question whether or not the gonococcus alone is capable of exciting a septic inflammation of the peritoneum. In the only two cases in which I can find reports of bacteriological examinations there was positive evidence of a mixed infection; in my own case staphylococci and streptococci were abundant, while in the case of Dr. Challan de Belval micrococci and other bacteria were found. Where the pyogenic bacteria are present

it is proof that a secondary infection has occurred, most probably from the rectum, and in such cases the evidences point to suppuration of the connective tissue of the pelvis as the cause of the peritonitis. On the other hand, could it be determined that the gonococcus was the only bacterium present, the probabilities would favor infection along either the spermatic cord, vesiculæ seminales, or possibly bladder. It is of the greatest importance, therefore, in order to settle these points, that an accurate bacteriological examination of the exudate should be made. In the majority of cases where the mode of entrance of the poison has been proved by operation or autopsy, an abscess of the prostate, followed by a periprostatic suppuration, has been found as the source of the infection, perhaps, in one or two cases, by continuity, but generally by direct rupture of the abscess into the peritoneal cavity. As a rule, the periprostatitis begins in the connective tissue between the prostate and bladder, the pyogenic bacteria having probably emigrated from the rectum. More rarely the inflammation begins on the sides of the prostate or between that gland and the bladder. The phlegmon thus started, if it fails to open into the bladder, rectum, or perineum, burrows upward, and the pus may infiltrate extensively the retroperitoneal connective tissue, or, pushing the peritoneum upward, eventually burst through it and start a local or general suppurative peritonitis.

The symptoms are similar to those of septic peritonitis from any other cause. Collapse at the moment of rupture does not seem to have been one of the phenomena in these patients. As a rule, the peritonitis has appeared somewhat late in the course of the disease, generally in the third, fourth, or fifth week. The prognosis, of course, if general peritonitis exists, is absolutely bad. If the general cavity has been shut off by a wall of adherent intestines a localized intraperitoneal abscess may form, which may rupture spontaneously into rectum, bladder, or intestine, or may be opened by the surgeon, as has been done in several cases with favorable results. As regards treatment, immediate laparotomy is indicated as soon as the diagnosis has been made. Delay will be fatal. The operation, if done at an early date, will give the patient a reasonable chance for recovery, and

even in cases which appear rather desperate it should be attempted, as it affords the patient his only chance for life, which, even if it be a very slight one, should be accepted.

In collecting the accompanying list of fatal cases I am indebted to the valuable articles of Faucon¹ and of Zeissl.²

FATAL CASES.

- (1) *Peter*: L'Union Médicale, 1856 (service of Velpeau).
- (2) and (3) *Goddard*: Gazette Médicale de Paris, 1856, p. 294 (reported also by Ricord and by Fournier, in Dictionnaire de Méd. et de Chir. prat., 1866).
- (4)³ *Guyon*: Gazette des Hôpitaux, 1856, p. 486.
- (5) *Rougon*: L'Union Médicale, 1876, p. 651.
- (6) *Dransart*: Le Progrès Médical, 1873, p. 15.
- (7) *Lienard*: Arch. de Méd. militaire, August, 1889 (reported by Challan de Belval).
- (8) *Wendelin*: Virchow's Jahresbericht, 1872, p. 623 (reported by Zeissl in Annales des Maladies des Organes Génito-Urinaires, July, 1893).
- (9) *Challan de Belval*: Journ. de Méd. et de Chir. prat., 1893, p. 456.
- (10) *McCosh*: ANNALS OF SURGERY, February, 1895.

¹ Archives Générales de Médecine, 1877.

² Annales des Maladies Génito-Urinaires, July, 1893.

³ It is possible that cases (1) and (4) are the same patient. They have been repeatedly quoted as different cases, but each occurred in the service of Velpeau.